

Va. temblor signals bigger tremors to come for East Coast

Mike Soraghan, Environment & Energy Publishing, 4-18-12

SAN DIEGO -- The Virginia-centered earthquake that damaged Washington, D.C., last summer hints that Boston, New York and other heavily populated East Coast cities could also be vulnerable to larger-than-expected quakes, said a Boston geophysicist who's studied the temblor.

"What we have seen in the past may not be as large as what we may see in the future," said John Ebel, director of the Weston Observatory at Boston College. "Now, you've got tens of millions of people exposed to an earthquake of that magnitude in New York, the most densely populated city in the country."

Speaking at the annual meeting of the Seismological Society of America in this earthquake-prone California city, Ebel noted that the magnitude-5.8 quake hit an area where the largest expected earthquake had been magnitude-4.8, 10 times smaller.

The largest quake understood to have hit New York is magnitude-5.0, a little larger than what was expected in the area of the Virginia quake, Ebel said. And he noted that Boston could be more vulnerable because parts of it were built on a landfill.

The earthquake was a rupture of a complex, previously unmapped fault, said Martin Chapman, director of the Virginia Tech Seismological Observatory. The testing done on its aftershocks has made it the most studied earthquake in the eastern United States.

What was notable to Ebel was that the quake was not only larger than what had happened in the past but that it damaged cities far from the epicenter more than 80 miles south of Washington.

The Virginia quake caused the North Anna nuclear power plant in Virginia to shut down. But Yong Li, a geophysicist with the Nuclear Regulatory Commission who also spoke at the SSA meeting, said even though the quake was larger than what plant designers expected, the facility was still strong enough to withstand the quake without damage.

"There's no indication that there's significant damage," Li said. "There's a huge design safety margin."